Claims:

1. A method for the production of acrylic acid comprising a step of introducing a mixed gas containing propylene and molecular oxygen into a first reaction zone packed with a complex oxide catalyst having molybdenum and bismuth as essential components and oxidizing propylene and obtaining an acrolein-containing gas, a step of introducing said acrolein-containing gas into a second reaction zone packed with a complex oxide catalyst having molybdenum and vanadium as essential components and obtaining an acrylic acid-containing gas, and a step of introducing said acrylic acid-containing gas into an acrylic acid absorption column and causing it to contact an absorbent thereby obtaining an acrylic acid-containing solution which comprises the steps of

(a) said first reaction zone and said second reaction zone being formed of different reaction tubes,

(b) said mixed gas for introduction into said first reaction zone having a propylene concentration in the range of 7 - 15 vol. % and a water concentration in the range of 0 - 10 vol. %, and

(c) said acrylic acid-containing solution absorbed in said acrylic acid absorption column having a water concentration in the range of 1 - 45 wt. %.

2. A method according to claim 1, wherein said absorbent is introduced into said acrylic acid absorption column at a mass flow rate in the range of 0.1 - 1.5 times the mass flow rate of propylene introduced into said first reaction zone.

3. A method according to claim 1, wherein a main component of said absorbent is water.

4. A method for the production of acrylic acid comprising

a step of introducing a mixed gas containing propylene and molecular oxygen into a first reaction zone packed with a complex oxide catalyst having molybdenum and bismuth as essential components and oxidizing propylene and obtaining an acrolein-containing gas, a step of introducing said acrolein-containing gas into a second reaction zone packed with a complex oxide catalyst having molybdenum and vanadium as essential components and obtaining an acrylic acid-containing gas, and a step of introducing said acrylic acid-containing gas into an acrylic acid absorption column and causing it to contact an absorbent thereby obtaining an acrylic acid-containing solution which comprises the steps of

(a) said first reaction zone and said second reaction zone being formed of different reaction tubes,

(b) said propylene concentration of said mixed gas introduced into said first reaction zone being in the range of 7 - 15 vol. % and the water concentration in said mixed gas being in the range of 0 - 10 vol. %, and

(c) said water concentration of said acrylic acid-containing solution obtained in the acrylic acid absorption column being adjusted to a level in the range of 1 - 45 wt. % by adjusting the amount of an absorbent to be introduced.

5. A method according to claim 4, wherein the amount of said absorbent to be introduced is 0.1 - 1.5 times the mass flow amount of propylene introduced into said first reaction zone.

6. A method for the production of polyacrylic acid comprising using the acrylic acid obtained by the method set forth in any of claims 1 - 5.